

Missouri Freight Transportation

Economy on the Move

Waterway Freight



Waterway Industry

Missouri is home to 14 public Port Authorities and over 200 private ports operating on over 1,000 miles of waterways along the Missouri and Mississippi rivers. The port industry currently employs 1,396 workers; 870 in inland water freight transportation positions and 526 in water transportation support activities.

An Economic Driver

The waterway industry employment has a large impact on Missouri's economy generating an estimated \$388 million annually in Gross State Product, \$245 million in personal income and \$13 million in new net Missouri general revenues. The nearly 1,400 direct workers generate an estimated 3,500 indirect and induced spin-off jobs annually in Missouri through purchases of industry intermediate inputs and employee consumer spending.

Commodity Flows

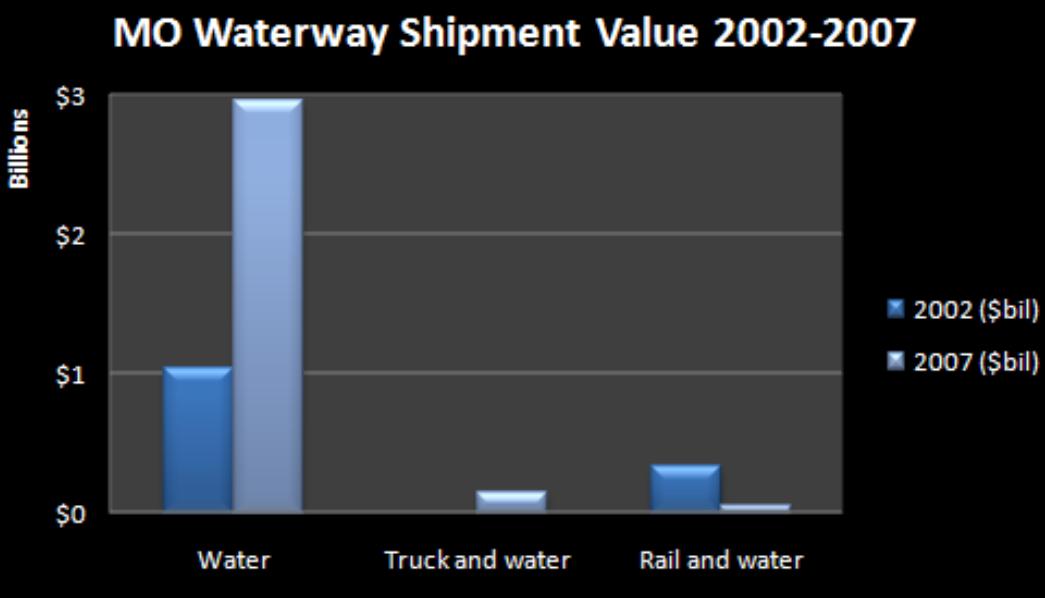
Shipment values and tonnage for all modes combined increased in Missouri by roughly 20% over the five years surveyed. Waterway shipments grew by 184% and account for over 1.4% of the value and over 11.7% of the total tonnage. Nearly \$3 billion in Missouri commodities are shipped by waterway. Cereal grains and other agricultural products represent nearly 87% of the total value of those Missouri commodities. Over \$46 million in commodities are imported by waterway to Missouri.



Trends in Waterway Shipments 2002-2007

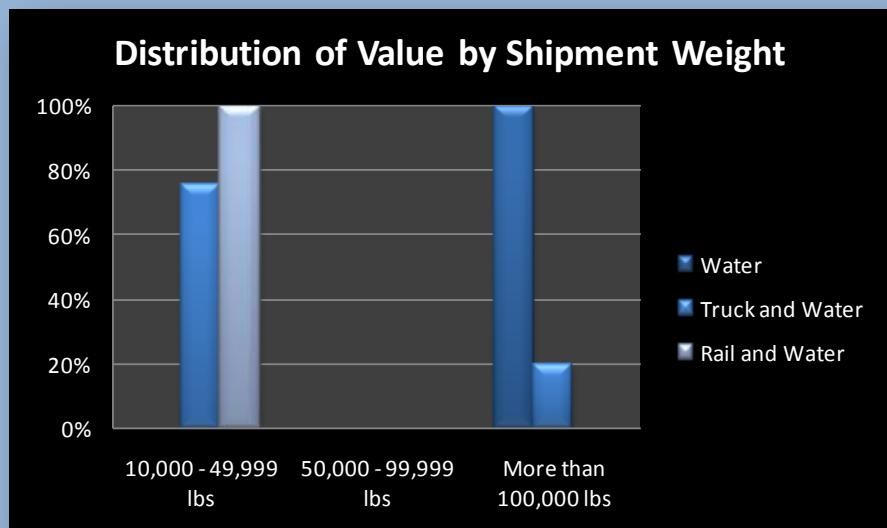
Shipment values and tonnage for all modes combined increased in Missouri by roughly 20% over the five years surveyed. Missouri companies shipped nearly \$226 billion and 305 million tons of commodities throughout the U.S. Waterway shipments accounted for over 1.4% of the value and over 11.7% of the tonnage or \$3.2 billion and 35.8 million tons.

The Commodity Flow Survey breaks out waterway shipping into waterway only modes and waterway intermodal modes (water/rail, truck/water). The most recent survey reports a significant increase in water only shipping values (184%). Substantial dollar gains were found in cereal grains, other agricultural products, gravel and crushed stone, non-metallic mineral products, and natural sand shipments. Intermodal water and rail shipments declined in value by 85% over the same period. Truck and water intermodal, previously suppressed in 2002, now shows a growth in value to \$149 million and 5.9 million tons.



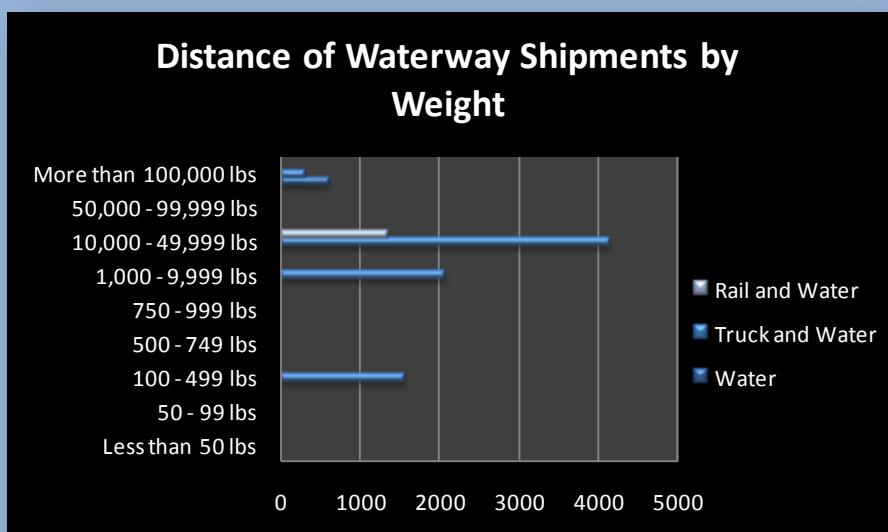
Shipment Weights

The distribution of shipment weight by waterway mode primarily falls into two categories. All waterway only shipments are more than 100 thousand lbs and represent 100% of the value. Intermodal waterway shipments predominately fall into the 10-50 thousand lbs category.

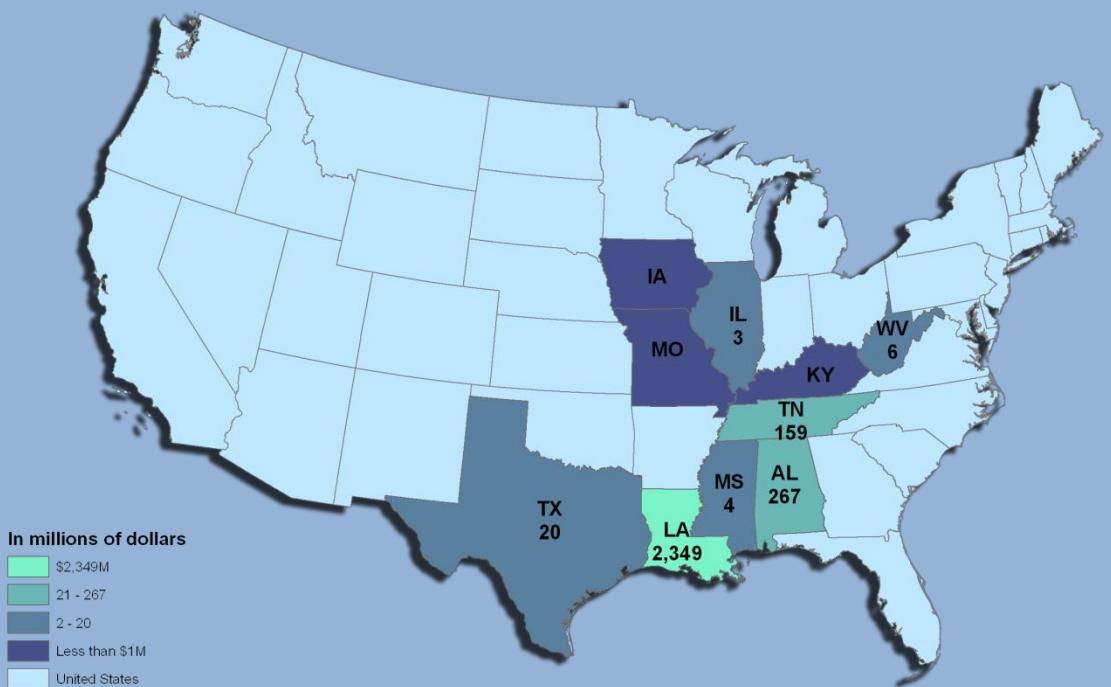


Shipment Distance

Missouri waterway only shipments average 602 miles to destination. Water and rail intermodal averages 1,353 miles and truck and water intermodal averages 1,760 miles to destination.



Missouri's Waterway Shipments to States (\$M)

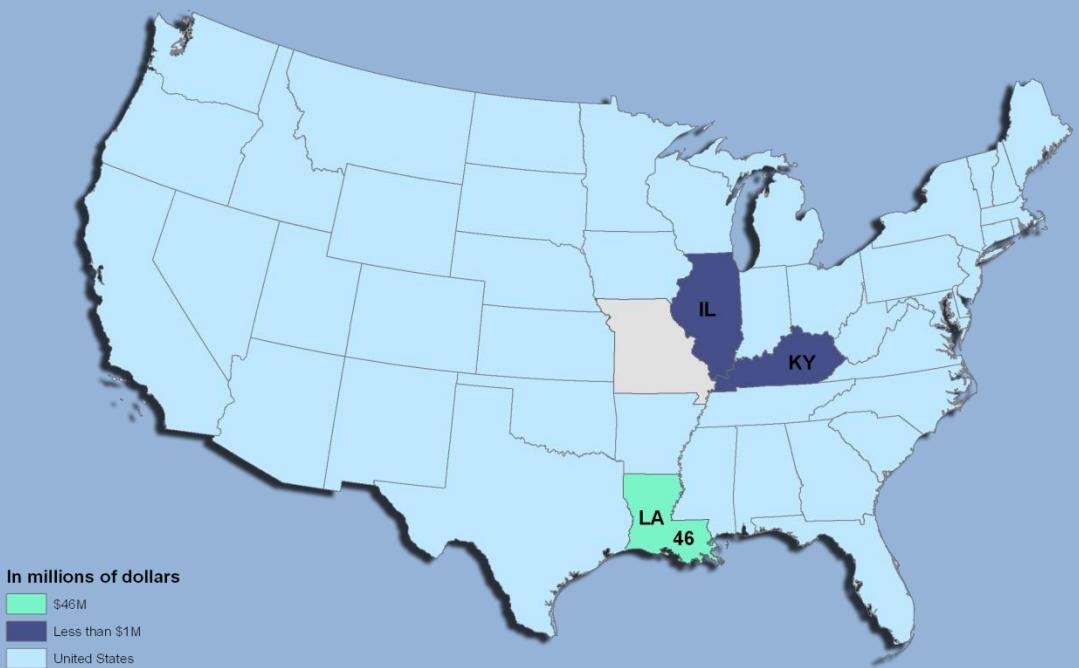


Missouri's waterway shipments are distributed mainly in the central region with Louisiana receiving nearly 80% of the total waterways shipment value and 56% of the tonnage. Higher value intermodal shipments by truck and water combinations move predominately to California (\$12M) and Missouri (\$3M). Intermodal shipments by rail and water move predominately south to Texas (\$27M), Louisiana, and Alabama.



*Suppressed Items marked with an s

Missouri's Waterway Imports from States (\$M)



Missouri receives waterway cargo from three states, Louisiana, Kentucky and Illinois. The only commodity not suppressed was cereal grains from Illinois. Intermodal shipments by truck and water come from West Virginia in the form of fuel oil. Rail and water intermodal imports arrive from Louisiana, West Virginia, and Wyoming.

| Origin | Value(\$mil) | Tons (thous) |
|-----------|--------------|--------------|
| Louisiana | 46 | s |
| Illinois | s | s |
| Kentucky | s | s |

*Suppressed Items marked with an s

Missouri's Intermodal Imports from States

Missouri truck and water intermodal imports are made up of fuel oils, coal, fertilizers, transportation equipment, base metals, and waste/scrap. This mode averages 917 miles to destination for fuel oils and 81 miles for coal. Origin states are mainly from the central region and West Virginia.

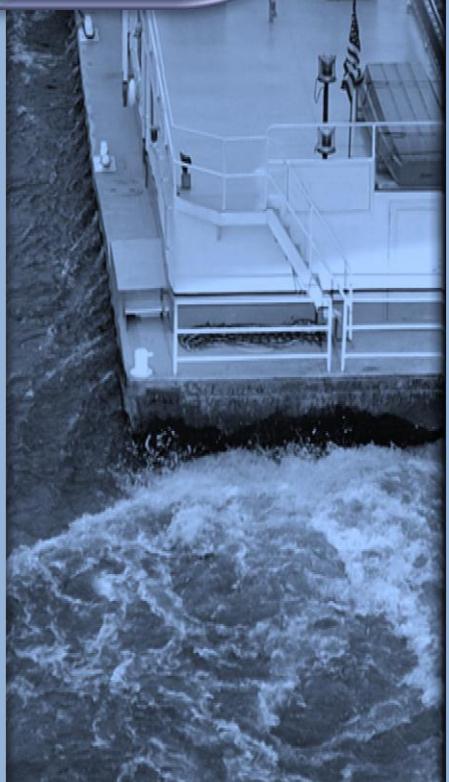
Missouri rail and water intermodal imports consist of base metal, coal, and petroleum products, averaging 1,191 miles to destination.



Missouri's Top Waterway Shipments to States



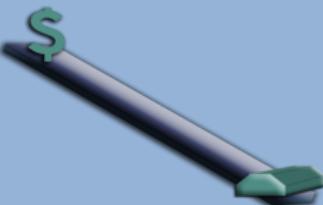
Nearly \$3 billion in Missouri commodities are shipped by waterway only modes. Higher value shipments average 863 miles to destination while higher tonnage shipments average 877 miles. Cereal grains and other agricultural products make nearly 87% of the total value of Missouri commodities shipped by waterway. These higher dollar commodities predominantly move to the south. Cereal grains and gravel/crushed stone make up 75% of the total tonnage shipped from Missouri with the majority of tons moving south to Louisiana and Alabama.



Top Missouri Commodities Shipped to States

| MO Commodities | Value(\$mil) | Tons (thous) |
|------------------------------|--------------|--------------|
| Cereal grains | 1,608 | 11,634 |
| Other agricultural products | 961 | 3,222 |
| Nonmetallic mineral products | 185 | 2,341 |
| Gravel and crushed stone | 70 | 11,335 |
| Natural sands | 6 | 2,045 |
| Transportation equipment | s | s |

*Suppressed Items marked with an s



Missouri's Intermodal Shipments to States

Missouri truck and water intermodal shipments account for \$149 million and 5.1 million tons of which are made up of primarily Machinery, Waste/Scrap, Sand, and Chemicals. This mode averages 1,760 miles to destination.

Missouri rail and water intermodal shipments account for \$53 million and 7 thousand tons of which are made up of Basic Chemicals, Pharmaceutical Products, Chemical Products, and Machinery. This mode averages 1,400 miles to destination.

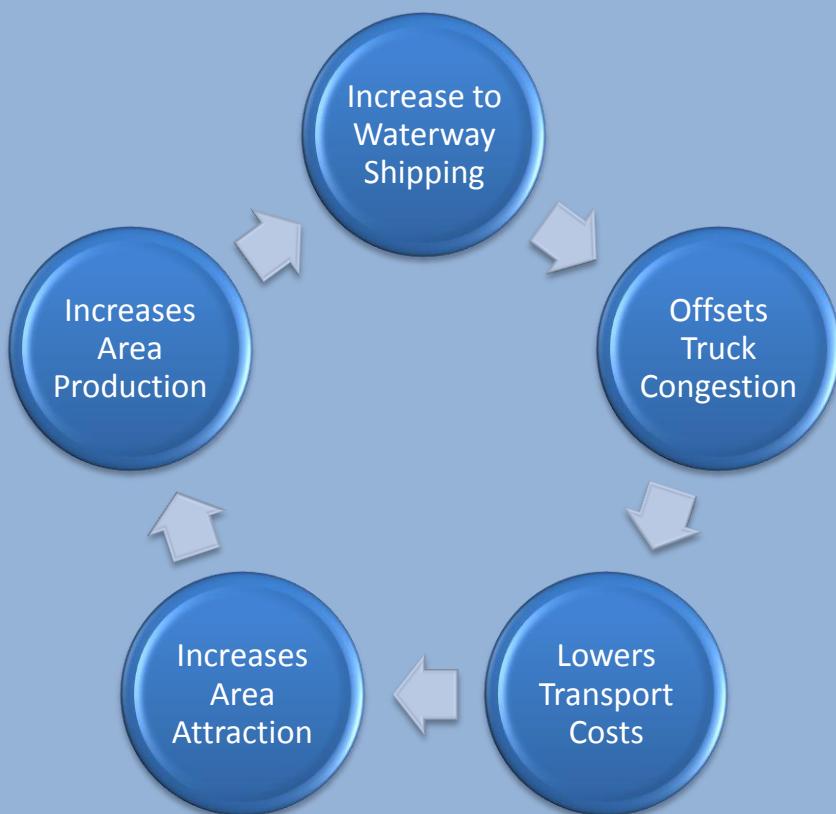


Transportation Enhancements – Waterway Freight

Scenario: Diverting Trucking to Barge-Urban Region

Investment in transportation infrastructure can reap many positive benefits for industry and consumers alike. Enhancing port capacities allows for efficiencies to be gained and cost savings to occur for industries that ship by waterway.

A sample study performed in an urban Missouri community examined the effect of diverting one “standard” tow of cargo shipments to waterway, and decreasing trucking shipments by the equivalent amount. Typically, one “standard” tow carries the equivalent tonnage of 900 trucks. Economic gains from this diversion offered net savings to freight costs, vehicle operating costs, safety costs, and environmental costs amounting to over \$22 million annually in gross regional product and more than 250 recurring jobs.



Sources

U.S. Census, American Fact Finder Commodity Flow Survey
Regional Economic Models Incorporated
TREDIS Transportation Modeling
MoDOT, Missouri Public Port Authorities: Assessment of Importance and Needs, March 2006
U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Note

The recent release of the American Fact Finder *Commodity Flow Survey* by the U.S. Census describes the values, tonnage, and distance of state to state shipments. The information updates a 2002 survey and includes detailed estimates by modal activity (truck/barge/rail), commodity, and industry. Intermodal activities (ie. truck and water, water and rail) are also estimated using this survey. While origins and destinations are cited in this report, data collection limitations measure the origin of movement and may not represent the commodity origin of production or final destination of the commodity.

Prepared by Tony Brite

